

06/28/00
JC845 U.S. PRO

06-28-00

A

PATENT

Date June 28, 2000

Docket No. 16513-2424

JC712 U.S. PRO
06/28/00

CERTIFICATION UNDER 37 CFR 1.10

I hereby certify that this New Application Transmittal and the documents referred to as enclosed therein are being deposited with the United States Postal Service on June 28, 2000 in an envelope as "Express Mail Post Office to Addressee" Mailing Label Number EL110672247US addressed to: Box Patent Application, Assistant Commissioner of Patents, Washington, D.C. 20231.

Cathy Marino
(Type name of person mailing paper)

Cathy Marino
(Signature of person mailing paper)

NOTE: Each paper or fee referred to as enclosed herein has the number of the "Express Mail" mailing label placed thereon prior to mailing. 37 CFR 1.10(b).

Box Patent Application
Assistant Commissioner of Patents
Washington, D.C. 20231

NEW APPLICATION TRANSMITTAL

Transmitted herewith for filing is the patent application of

Inventor(s): Nykoluk, Cory

For : TOWABLE WHEELED-BACKPACK

Enclosed are:

1. Benefit of Prior U.S. Application (35 USC 120)

The new application being transmitted claims the benefit of a prior U.S. application and enclosed is added page for new application transmittal where benefit of a prior U.S. application claimed.

2. The Papers Required For Filing Under 37 CFR 1.53:

<u>16</u>	Pages of Specification
<u>1</u>	Pages of Abstract
<u>5</u>	Pages of Claims
<u>3</u>	Sheets of Drawing

 formal X informal

In addition to the above papers there is also attached:

 Pages of an Amendment
 X Return Receipt Postcard
 Information Disclosure Statement with copies of references.

3. Declaration or oath

Enclosed 3 pages
 Newly executed (original or copy)
 Copy from a prior application (continuation/divisional with page 5 of 5 completed)
 Deletion of Inventor(s) (signed statement attached deleting inventor(s) of prior application)
 Not enclosed

4. Inventorship Statement

The inventorship for all the claims in this application are:

the same

OR

are not the same and an explanation, including the ownership of the various claims at the time the last claimed invention was made, is submitted.

5. Language

English Non-English

A verified English translation of the

[check applicable item(s)]

specification and claims

declaration

is attached.

6. Assignment

An assignment of the invention to TRG Accessories

is filed under separate cover sheet

was filed in the prior application

will follow

7. Certified Copy

(Country)

(Application No.)

(Filed)

from which priority is claimed

is attached

will follow

8. Fee Calculation

CLAIMS AS FILED

	Number Filed	Provided with Basic Fee	Number Extra	Rate	Basic Fee \$690
Total Claims	20	20	0	X \$18.00	\$.00
Independent Claims	3	3	0	X \$78.00	\$.00
Multiple Dependent Claim(s), if any	0	0	0	X \$260.00	\$.00

Amendment canceling extra claims enclosed
 Amendment deleting multiple dependencies enclosed
 Fee for extra claims is not being paid at this time

Filing Fee Calculation \$ 690.00

9. Small Entity Statement

verified statement that this is a filing by a small entity under 37 CFR 1.9 and 1.27 is attached.

Filing Fee Calculation (50% of above) \$ 345.00

10. Fee Payment Being Made At This Time

Enclosed
 basic filing fee \$ 345.00
Total fees enclosed \$ 345.00

11. Method of Payment of Fees

check in the amount of \$ 345.00

12. Authorization to Charge Additional Fees

X The Commissioner is hereby authorized to charge the following additional fees which may be required to Account No. 18-1829;

X 37 CFR 1.16 (filing fees and presentation of extra claims)

X 37 CFR 1.17 (application processing fees)

 37 CFR 1.18 (issue fee at or before Mailing of Notice of Allowance, pursuant to 37 CFR 1.311(b)).

13. Instructions As To Overpayment

X credit Account No. 18-1829

14. Correspondence Address



Clyde L. Smith
Reg. No. 46,292
HOWELL & HAVERKAMP, L.C.
7733 Forsyth Boulevard
Suite 1400
St. Louis, Missouri 63105
(314) 727-5188

PATENT
Express Mail No. EL110672247US

Applicant: Cory Nykoluk;
Attorney's Docket No.: 16513-2424
Filed: Herewith
For: Towable Wheeled-Backpack

VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS
[37 CFR 1.9(f) and 1.27(c)]
SMALL BUSINESS CONCERN

I hereby declare that I am:

the owner of the small business concern identified below:
 an official of the small business concern empowered to act on behalf of the concern identified below:

NAME OF CONCERN: TRG Accessories
ADDRESS: 1328 Ashby Road
St. Louis, MO 63132

I hereby declare that the above-identified small business concern qualifies as a small business concern as defined in 13 CFR 121.3-18, and reproduced in 37 CFR 1.9(d), for purposes of paying reduced fees under section 41(a) and (b) of Title 35, United States Code, in that the number of employees of the concern, including those of its affiliates, does not exceed 500 persons. For purposes of this statement, (1) the number of employees of the business concern is the average over the previous fiscal year of the concern of the persons employed on a full-time, part-time or temporary basis during each of the pay periods of the fiscal year, and (2) concerns are affiliates of each other when either, directly or indirectly, one concern controls or has the power to control the other, or a third party or parties controls or has the power to control both.

I hereby declare that rights under contract or law have been conveyed to and remain with the small business concern identified above with regard to the invention, entitled Towable Wheeled-Backpack,
by inventor(s): Cory Nykoluk

described in:

the specification filed herewith.
 Application Serial No. __, filed __.
 Patent No. __, issued __.

If the rights held by the above-identified small business concern are not exclusive, each individual, concern or organization having rights to the invention is listed below and no rights to the invention are held by any person, other than the inventor, who could not qualify as a small business concern under 37 CFR 1.9(d) or by any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

NAME:
ADDRESS:

INDIVIDUAL SMALL BUSINESS CONCERN NONPROFIT ORGANIZATION

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. [37 CFR 1.28(b)].

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

NAME OF PERSON SIGNING: Todd Siwak
TITLE OF PERSON OTHER THAN OWNER: President
ADDRESS OF PERSON SIGNING: 1328 Ashby Road
St. Louis, MO 63132

SIGNATURE: Todd Siwak DATE: 6-29-00

PATENT

Express Mail No. EL110672247US

TOWABLE WHEELED-BACKPACK

Background of the Invention

(1) Field of the Invention

This invention pertains to the field of backpacks of the type that can be worn on a person's back or over a person's shoulder. More particularly, this invention 5 pertains to a wheeled-backpack having a unique, non-rigid or flexible connection between a rigid wheeled base of the backpack and a supporting backing sheet of the backpack that rests against a person's back when worn. The flexible connection allows the base and backing sheet 10 to move relative to each other as the backpack wearer's upper body moves, enabling the backpack to be more comfortably worn. Additionally, a unique curved extendable towing member is utilized that follows the curvature of the backpack wearer's back to further 15 enhance the comfort of wearing the backpack.

(2) Background of the Invention

It is common for many varieties of baggage to be equipped with wheels that enable the baggage to be towed by persons when traveling. A typical towable piece of 5 baggage generally includes a pair of wheels and an extendable towing member connected to the piece of baggage.

A typical wheeled-suitcase, for example, has wheels that are only a few inches in diameter. The wheels are 10 usually mounted spaced apart on an edge of the suitcase where they can support the suitcase above the ground when the suitcase is tilted and towed. Although some suitcase have retractable wheels and some have casters, most suitcases have wheels that are fixed in a single 15 orientation relative to an edge of the suitcase.

It is also common for the wheels of such towable baggage to be mounted to a rigid base of the piece of baggage. The rigid base has sufficient stiffness to support the wheels in their fixed orientation and to 20 support the weight of the piece of baggage and its contents when being towed. In the case of a rigid wheeled-suitcase having a shell made of plastic, aluminum, or other generally stiff material, the rigid base is often merely a portion of the suitcase exterior. 25 Conversely, baggage made mostly of canvas, nylon, leather, or other flexible materials generally utilize some form of stiffening frame or rigid base adjacent the exterior of the baggage for supporting the weight and holding the wheels in their fixed orientation.

30 As mentioned above, a wheeled piece of baggage also commonly includes some form of towing member with a towing handle that is extendable from the piece of baggage. Extension of the towing member allows the piece

of baggage to be pulled behind a person without coming into contact with the person's legs and feet as the piece of baggage is being towed.

In many cases, a wheeled piece of baggage has an 5 extendable towing member comprised of a pair of parallel telescoping poles bridged by the towing handle. The poles slide into separate vertically oriented tubular receptacles rigidly attached to an interior compartment of the piece of the baggage. In such a configuration, 10 the towing member least interferes with the internal compartment of the piece of baggage and is generally not visible from the exterior of the piece of baggage when stowed or retracted. Other types of baggage utilize single-pole telescoping tow members that extend and 15 retract from a single tubular receptacle that is centrally positioned between the wheels of the piece of baggage.

Yet other types of baggage utilize non-telescoping extendable towing members such as bars or poles that are 20 hinged to the piece of baggage. Typically, such pieces of baggage have some form of clasp that holds the towing member against a side of the piece of baggage when the baggage is not being towed and that releases the towing member when desired to allow the towing member to pivot 25 upwardly into an extended position. Such towing members can also usually be locked into a particular extended position.

Providing baggage such as overnight luggage or suitcases with wheels has increased in popularity and 30 their convenience has been appreciated to the extent that recently, wheels have begun being provided on other types of baggage such as backpacks. However, most backpacks have merely been provided with the same type of wheeled

towing systems commonly utilized with conventional baggage as described above. Prior art wheeled-backpacks provided with conventional towing systems suffer from disadvantages due to their different design and 5 construction from that of other types of baggage such as suitcases, and due to their commonly being worn on the back of the user unlike other types of baggage.

One such disadvantage is that, unlike suitcases, it is desirable that a backpack be able to flex, especially 10 on the portion of the backpack that rests against a person's back when being worn. This is because, as a person walks, the person's shoulders rotate relative to his or her hips, thereby causing his or her back to twist. Like wheeled-suitcases, conventional wheeled- 15 backpacks typically have an extendable towing member rigidly attached to the base of the backpack. This is because it was generally thought in the art that the towing member must be rigidly attached to the base of the piece of baggage to effectively be used to tilt and tow 20 the piece of baggage along the ground. However, the rigid construction of prior art wheeled-backpacks is disadvantaged in that, as a person walks while wearing such a backpack, portions of the backpack are unable to maintain contact against the person's back and thereby 25 cause discomfort as they intermittently contact the person's back. Additionally, as a wearer climbs stairs or leans to one side such as when reaching down to pick up another item, one of the wearer's shoulders is momentarily closer to the wearer's hips than the other. 30 In this situation, depending upon the particular configuration of the backpack, either the bottom or the top of the backpack will slide from side to side causing additional discomfort. These aspects of prior art

wheeled-backpacks cause such backpacks to feel more like strapped on suitcases rather than conventional non-wheeled-backpacks which are soft sided and much more comfortable.

5 In addition to the disadvantages in comfort, the rigid construction of prior art wheeled-backpacks also suffers from structural disadvantages. Unlike suitcases that typically have a rigid rectangular frame or shell for maintaining the shape of the suitcase which also is
10 used to adequately support the towing member, prior art wheeled-backpacks generally lack such a support. Thus, the towing member of a prior art wheeled-backpack is typically supported by the rigid base of the backpack on which the wheels are mounted. In this configuration, the
15 towing member acts as a leverage arm creating large stresses at the union between the towing member and the base even during normal towing. Additional stresses are generated when the wheels of such a backpack attempt to move independently of the towing member, such as when one
20 wheel encounters an obstruction when the backpack is being towed. In such a situation, one of the wheels typically rides over the obstruction while lifting the other wheel above the ground, thereby causing torsional loading of the towing member. To withstand these loads,
25 the base of the towing member of a typical prior art backpack is made substantially strong and durable, which limits the materials that may be used to construct the backpack and which influences the weight of the backpack.

Yet another disadvantage associated with any type of
30 wheeled baggage having a rigid construction is that they are prone to tipping over when being towed around corners. This tendency to tip is due to the towing member functioning as a lever arm which causes a large

torque to act upon the baggage when even small forces are applied to the towing handle.

Summary of the Invention

The towable wheeled backpack of the invention 5 overcomes the disadvantages associated with prior art wheeled-backpacks by providing a towing system uniquely adapted for use with backpacks. The towing system allows a wheel-backpack to flexibly conform to a person's twisting back when being worn, while still maintaining 10 the structural integrity needed to tow the backpack if desired. Thus, the towing system of the invention greatly improves the comfort of wearing a wheeled-backpack and actually improves the towability of wheeled-backpacks.

15 In general, the invention comprises several elements in common with prior art wheeled-backpacks such as shoulder straps, a waist strap, wheels, and an extendable towing member. Unlike prior art backpacks however, the preferred embodiment of the invention utilizes novel 20 constructions of the common elements and several additional novel features.

The preferred embodiment of the wheeled-backpack of the invention comprises a pivotal connection between a rigid base portion of the backpack and an extendable 25 towing member upon which an internal supporting backing sheet is attached. The pivotal connection allows the backing sheet to twist relative to the base as a person's shoulders twist relative to his or her hips when the backpack is being worn. This eliminates the discomfort 30 experienced using prior art wheeled-backpacks having a back fixed relative to the base. Additionally, the pivotal connection reduces the torsional forces acting on the towing member by allowing the wheels of the backpack

to move relative to the towing member and "step" over obstructions when the backpack is being towed. The pivot connection also reduces unintentional tipping of the backpack due to sudden forces acting on the towing
5 member, thereby improving the towability of the back pack while reducing the size and weight of the towing member.

The wheeled-backpack of the preferred embodiment also utilizes a curved single-pole telescoping towing member. The curvature of the towing member follows the
10 contour of the backing sheet which is curved similar to that of a wearer's back rather than being flat or planar as prior art wheeled-backpacks. Additionally, the curvature of the towing member allows the tow handle to extend upwardly and forward of the backpack where it is
15 in an optimum position for towing the backpack.

While the principal advantages and features of the present invention have been described above, a more complete and thorough understanding of the invention may be attained by referring to the drawings and detailed
20 description of the embodiments which follow.

Brief Description of the Drawings

Figure 1 is an isometric view of the preferred embodiment of the invention showing the backpack with the towing member in a fully extended position.

25 Figure 2 is an exploded assembly view of the structural components of the preferred embodiment of the invention.

Figure 3 is an assembly view of the structural components of the preferred embodiment of the invention
30 shown without the flexible outer pack portion of the backpack.

Figure 4 is an isometric assembly view of the preferred embodiment of the invention showing the

placement of the structural components relative to the pack portion of the backpack.

Reference characters in the written specification indicate corresponding parts throughout the several views 5 of the drawings.

Detailed Description of the Invention

The preferred embodiment of the wheeled-backpack 10 of the invention is shown in Figure 1 and, like typical backpacks, comprises a pack portion 12 with an opposite 10 front 14 and back 16, opposite top 18 and bottom 20, and opposite left 22 and right 24 sides. The pack portion 12 of the wheeled-backpack 10 is formed of a woven nylon material or other suitable flexible material and has at 15 least one accessible storage compartment 26, as shown in Figure 4, for storing various items to be carried within the backpack. Additionally, like prior art backpacks in general, the wheeled-backpack has a pair of shoulder straps (not shown) and, optionally, a waist strap (not shown) for supporting the wheeled-backpack on a wearer's 20 back. When not being worn, a closeable shroud 28 on the front 14 of the pack portion 12 conceals the shoulder straps and waist strap therebehind, as shown in Figure 1, so that the straps will not drag along the ground or 25 become snagged on other items when the wheeled-backpack 10 is being towed.

The towing system 30 of the preferred embodiment of the wheeled-backpack 10 is largely concealed within the pack portion 12. For purposes of describing the invention, the various components of the towing system 30 are shown without the pack portion 12 in Figures 2 and 3. Figure 2 shows the components in an exploded isometric view and Figure 3 shows the components in an isometric assembly view. In general, the towing system 30 of the

wheeled-backpack 10 comprises a pair of wheels 32 mounted to a rigid base 34, an extendable towing member 36, and a backing sheet 38.

In the wheeled-backpack 10 of the preferred embodiment, the wheels 32 of the towing system 30 are made of plastic and are pivotally attached to the rigid base 34 on a pair of axially aligned wheel mounts 40 formed within wheel wells 42 on opposite sides of the rigid base. The rigid base 34 is preferably formed as a single monolithic piece of polymeric or acetate resin. The base 34 has a bottom portion 44 which is reinforced by a generally vertical portion 46 and the pair of wheel wells 42 that provide suitable stiffness for supporting the weight of the items stowed in the storage compartment 26 of the pack portion 12 and hold the wheels 32 in alignment when the wheeled-backpack 10 is being towed. A protrusion 48 from the vertical portion 46 of the rigid base 34 is positioned centrally between the wheel wells 42. The protrusion 48 has a semi-spherical indentation 50 that forms one half of a socket portion of a ball-and-socket joint used to connect the rigid base to the towing member 36 as discussed below.

The extendable towing member 36 of the wheeled-backpack 10 is a single-pole curved telescoping member comprised of a tubular non-extendable portion 52 and preferably two tubular extendable portions 54. The non-extendable portion 52 and the extendable portions 54 of the towing member 36 are preferably made of metal to provide adequate strength and wear properties to the towing member. The non-extendable portion 52 and extendable portions 54 are slidably engaged with one another in a telescoping manner to extend and retract a tow handle 56 from the wheeled-backpack 10. The non-

extendable portion 52 of the towing member 36 has an oval cross-section and is arched along its length to partially conform to the curvature of a person's back. The extendable portions 54 of the towing member 36 have a 5 similar cross-section to that of the non-extendable portion 52 and are also curved such that the extendable portions of the towing member can be selectively retracted within the non-extendable portion of the towing member or, alternately, extended partially outward from 10 the top end 58 of the non-extendable portion as desired. The curvature of the towing member 36 allows the tow handle 56, which is attached to a free end of one of the extendable portions 54 of the towing member, to be extended upwardly and forwardly of the wheeled-backpack 15 10 along a curved path until reaching a fully extended position as shown in Figure 1. The oval cross-section of the non-extendable and extendable portions 52, 54 of the towing member 36, in addition to the curvature thereof, prevents the extendable portions from twisting relative 20 to each other as well as relative to the non-extendable portion of the towing member.

A ball fitting 60, preferably made of plastic, is attached to the bottom end of the non-extendable portion 52 of the towing member 36. The ball fitting 60 has a 25 spherical exterior dimensioned slightly smaller than the semi-spherical indentation 50 formed in the protrusion 48 of the rigid base 34. During assembly of the towing system 30, the ball fitting 60 is positioned against the semi-spherical indentation 50 of the rigid base 34 and a 30 separate retaining member 62 is then attached to the rigid base for securing the towing member 36 to the rigid base. The retaining member 62 has a semi-spherical indentation 64 that, combined with the semi-spherical

indentation 50 of rigid base 34, forms the socket portion of the ball- and-socket joint which connects the towing member to the base and allows the towing member 36 to pivot and twist relative to the rigid base.

5 The backing sheet 38 used in the preferred embodiment of the wheeled-backpack 10 is a thin sheet of high density foam or other similar resiliently flexible material. The backing sheet 38 is positioned inside the pack portion 12 between the non-extendable portion 52 of
10 the towing member 36 and the front 14 of the pack portion where it functions as a cushion and prevents a wearer of the backpack from feeling the towing member against his or her back. The backing sheet 38 is preferably sewn to the front 14 of the pack portion 12 along opposite edges
15 66 of the backing sheet, while the bottom edge 68 of the backing sheet is preferably left unattached. Additionally, a top portion 70 of the backing sheet is angled relative to the remainder of the backing sheet and lays adjacent the top 18 of the pack portion 12. The
20 backing sheet top portion 70 has an opening 72 configured to allow passage of the towing member 36 therethrough as is discussed below.

A channel member 74, preferably made of material identical to that of the backing sheet 38, is used to
25 attach the backing sheet to the towing member 36 by forming a sleeve around the non-extendable portion 52 of the towing member. The channel member 74 is preferable sewn along its perimeter to the backing sheet 38. The channel member 74 is formed with a channel portion 76
30 that is only slightly larger in cross-section than is the non-extendable portion 52 of the towing member 36. When attached to the backing sheet 38, the channel member holds the backing sheet against the curvature of the

towing member to provide the backing sheet with a similar curvature. This configuration allows the backing sheet 38 to twist and slide vertically relative to the towing member 36, within the limitations of the pack portion 12 and the connection of the top 70 of the backing sheet 38 to the towing member 36.

In addition to the main components of the towing system 30 described above, the preferred embodiment of the wheeled-backpack 10 utilizes several other components 10 to attach the towing system to the pack portion 12. One such component is a lower sheet 78 that is preferably made of material identical to that of the backing sheet 38. The lower sheet 78 is molded to generally conform to the shape of the rigid base 34 of the towing system 30. 15 The lower sheet 78 is sewn to the inside of the pack portion 12 adjacent the bottom 20 of the pack portion where it separates the rigid base 34 from the pack portion. In this position, the lower sheet 78 provides a cushion between the rigid base 34 of the towing system 30 20 and a wearer's back when the wheeled-backpack 10 is being worn and also prevents the pack portion 12 of the wheeled-backpack from abrading against the rigid base.

The backpack also comprises a pair of identical hub plates 80 that are preferably made of material identical 25 to that of the rigid base 34. The hub plates 80 each have an opening 82 dimensioned to allow passage of the wheel mounts 40 of the rigid base 34 therethrough. The hub plates are attached by threaded fasteners 84 to the wheel wells 42 of the rigid base 34 from the exterior of 30 the pack portion 12. Thus, the hub plates 80 and the rigid base 34 "sandwich" the pack portion 12 and lower sheet 78 therebetween to attach the rigid base to the pack portion while avoiding creating any areas on the

material of the pack that would wear quickly due to their attachment to the base. Additionally, the hub plates 80 also act to hold the bottom 20 and sides 22, 24 of the pack portion 12 tight against the wheel wells 42 to 5 prevent the pack portion from interfering with the rotation of the wheels 32.

Interior 86 and exterior 88 sleeves further secure the towing member 36 to the pack portion 12. The exterior sleeve 88 has an opening 90 for passage of the 10 towing member 36 therethrough and a cup shaped portion 92 configured to receive the tow handle 56 therein when the towing member is in the retracted position. The interior socket 86 also has an opening 94 for passage of the towing member 36 therethrough and a cup portion 96 15 configured to receive the cup shaped portion 92 of the exterior sleeve 88. The interior and exterior sleeves 86, 88 are secured to each other by threaded fasteners with the pack portion 12 and the top 70 of the backing sheet 36 "sandwiched" therebetween and with the top end 20 58 of the non-extendable portion 52 of the towing member 36 positioned in the openings of each sleeve. Thus, like the hub plates 80, the interior and exterior sleeves 86, 88 are configured to connect the top 18 of the pack portion 12 to the towing member 36 without creating any 25 areas on the material of the pack that could potentially wear quickly due to their attachment to the sleeves.

Once assembled as described above, the preferred embodiment of the wheel-backpack 10 can be worn by a person like a standard non-wheeled-backpack by opening 30 the closeable shroud 28 and using the shoulder straps and waist strap therebehind. When so doing, the towing member 36 can be retracted with the tow handle 56 neatly positioned out of the way in the cup shaped 92 portion of

the exterior sleeve 88 at the top 18 of the pack portion 12. Additionally, in this configuration, the closeable shroud 28 can be tucked away into a pocket (not shown) at the base of the front 14 of the pack portion 12.

5 When being worn as described above, the configuration of the ball-and-socket joint between the rigid base 34 and the towing member 36 of the wheeled-backpack 10 allows the towing member to pivot in multiple planes relative to the rigid base, including rotation
10 about a vertical axis. As a wearer walks or runs, the pivotal connection allows the rigid base 34 to tilt from side to side and to twist relative to the towing member 36 and the backing sheet 38 such that the rigid base is able to move with the wearer's hips without causing the
15 rest of the wheeled-backpack 10 to shift back and forth. Additionally, because the backing sheet 38 is free to rotate about the towing member 36 and because the towing member is free to pivot relative to the base 34, the upper portion of the wheeled-backpack 10 can twist
20 relative to lower portion of the wheeled-backpack so as to maintain maximum contact against the person's back, thereby increasing the comfort of wearing the wheeled-backpack.

When desired, the wheeled-backpack 10 can be removed
25 from the wearer's back and towed along the ground by concealing the straps behind the closeable shroud 28 and extending the towing handle 56 from the cup shaped portion 92 of the exterior socket 88 as shown in Figure 1. In this configuration, the front 14 of the pack
30 portion 12 is tilted toward the ground with the wheeled-backpack 10 being supported above the ground by the wheels 32. The position of the tow handle 56 provided by the curved telescoping members 52, 54 allows a person to

tow the wheeled-backpack behind his or her self without risk of the wheeled-backpack 10 interfering with the person's legs as he or she walks. Additionally, the curvature of the towing member 36 also keeps the wheeled-backpack 10 more upright than would a towing member that extends straight upwards from the piece of baggage, resulting in a more preferable weight distribution toward the wheels 32 and away from the tow handle 56.

Furthermore, the pivotal connection between the towing member 36 and the rigid base 34 reduces the bending moment that would otherwise be induced in a rigid non-pivotal joint between conventional towing member and rigid base as the wheeled-backpack 10 is rolled over obstructions. Finally, the "towability" of the wheeled-backpack 10 is improved over prior art wheeled-backpacks because the wheels 32 are allowed to "step over" obstructions independently without also tilting the entire pack portion 12 and because the wheeled-backpack is less likely to tip-over as side forces are applied to the tow handle 56 when towing the wheeled-backpack around a corner.

It should be understood that in the wheeled-backpack 10 of the preferred embodiment, the pivotal movement of the towing member 36 relative to rigid base 34 is ultimately limited by the configuration of the ball-and-socket joint and it should be apparent that at certain angles of pivot, the non-extendable portion 52 of the towing member 36 would engage the rigid base 34 or the retaining member 62 of the joint which would prevent further movement in a given direction. However, the wheeled-backpack 10 of the preferred embodiment is configured such that the pack portion 12 also acts to limit the permissible movement of the towing member 36

relative to the rigid base 34 by merely becoming taut and thereby carries most of the bending loads that must ultimately pass from the towing member to the rigid base.

It should also be understood that, although the invention has been described above in reference to a specific embodiment, the invention is not limited to this embodiment and numerous alternative embodiments or changes to the preferred embodiment could be made as would be apparent to one of ordinary skill in the art without departing from the scope of the invention. For example, the connection between the non-extendable portion of the towing member and the rigid base could be a pin joint or even a rivet that allows the towing member to pivot in only one plane relative to the rigid base portion. In another alternative embodiment, the towing member could simply be attached to the baggage without directly engaging a base portion. In such a configuration, the backpack itself would act as a pivotal connection. In yet another alternative embodiment, the rigid base portion could have a completely different shape or even be eliminated altogether while still allowing the towing member to pivot relative to the wheels. Yet another embodiment could utilize more than a single telescoping member and such towing members need not be curved nor telescoping.

Thus it should be clear that modifications and variations could be made without departing from the scope of the invention which should be considered as being limited only by the scope of the following claims and their legal equivalents.

What is Claimed:

1. A piece of baggage comprising:
 - a pack constructed of flexible material, the flexible material enclosing a hollow interior of the pack;
 - 5 a rigid base attached to the pack;
 - at least two wheels mounted for rotation to the rigid base; and
 - a rigid towing member operatively connected to the base for pivoting movement of the towing member relative
- 10 to the base.

2. The piece of baggage of claim 1, wherein:
the towing member is connected to the base for pivoting movement of the towing member in a multiple of planes relative to the base.

3. The piece of baggage of claim 2, wherein:
the towing member is connected to the base by a ball-and-socket joint.

4. The piece of baggage of claim 1, wherein:
the towing member is curved and is connected to the base intermediate the at least two wheels.

5. The piece of baggage of claim 1, wherein:
the towing member is comprised of at least two portions that telescope so as to allow the towing member to extend and retract in a telescoping manner.

6. The piece of baggage of claim 5, wherein:
the two portions of the towing member are curved.

7. The piece of baggage of claim 1, further comprising:
a resiliently flexible backing sheet attached to the
towing member for movement of the backing sheet with the
towing member relative to the base, the backing sheet
5 also being attached to the pack.

8. The piece of baggage of claim 7, wherein:
the backing sheet is attached to the towing member
in a manner that allows the backing sheet to pivot about
the towing member.

9. The piece of baggage of claim 1, wherein:
the extendable towing member is comprised of a
single-pole telescoping member.

10. A piece of baggage comprising:
a pack for receiving and carrying objects;
at least two wheels mounted for rotation on the pack
and for supporting the pack when the pack is being towed;
5 and
a towing handle attached to the pack by a curved,
telescoping member, the telescoping member allowing the
handle to be selectively extended from the pack and
retracted back toward the pack along an arcuate path
10 relative to the pack.

11. The piece of baggage of claim 10, wherein:
the towing handle is attached to a single-pole,
telescoping member comprised of a non-extending portion
and at least one extending portion slidably attached to
5 the non-extending portion for relative telescoping
movement of the non-extending portion and the extending
portion.

12. The piece of baggage of claim 11 can be used as a backpack and as a hand towed piece of baggage, the piece of baggage further comprising:

5 a resiliently flexible backing sheet attached to the non-extending portion of the telescoping member, the backing sheet being positioned between the non-extending portion of the telescoping member and a side the pack that rests against a person's back when the pack is worn as a backpack, the backing sheet also being attached to 10 the side of pack.

13. The piece of baggage of claim 12, wherein:

5 the backing sheet is attached to the non-extending portion of the telescoping member in a manner that allows the backing sheet to pivot about the non-extending portion of the telescoping member.

14. The piece of baggage of claim 10, wherein:

5 the at least two wheels have a common axis and the telescoping member is operatively attached to the pack in a manner that allows the telescoping member to pivot relative to the axis of the wheels.

15. The piece of baggage of claim 14, wherein:

5 the at least two wheels are mounted on a rigid base of the pack and the telescoping member is pivotally attached to the rigid base.

16. A piece of baggage for use as a backpack, the piece of baggage comprising:

a backpack constructed of a flexible material, the flexible material enclosing a hollow interior of the
5 pack;

a rigid base attached to a bottom of the pack;
a backing sheet attached to a side of the pack that rests against a user's back when the piece of baggage is worn as a backpack, the backing sheet and the rigid base
10 being moveable relative to each other.

17. The piece of baggage of claim 16, wherein:

the backing sheet has a contoured surface that conforms to a user's back when the piece of baggage is worn as a backpack.

18. The piece of baggage of claim 16 can be used as a backpack and as a hand towed piece of baggage, the piece of baggage further comprising:

5 at least two wheels mounted for rotation to the rigid base;

a single-pole towing member operatively connected to the rigid base intermediate the at least two wheels; and

the back sheet is attached to the single-pole towing member for pivoting movement of the backing sheet about
10 the single-pole towing member.

19. The piece of baggage of claim 18, wherein:

the single-pole towing member is attached to the rigid base by a pivot connection enabling the single-pole towing member to pivot relative to the base.

20. The piece of baggage of claim 18, wherein:

the single-pole towing member is curved and telescopes in an arcuate path between extended and retracted positions relative to the pack.

Abstract of the Disclosure

A towable, wheeled-backpack includes a towing handle attached to a curved, single-pole, telescoping towing member which retracts into the backpack when not in use.

5 The curvature of the towing member provides support for a
backing sheet that is attached to the towing member, and
the backing sheet is contoured so that the backpack can
be comfortably supported on a wearer's back. A rigid
base with wheels is pivotally attached to a bottom end of
10 the towing member. The pivot attachment allows the base
and wheels to move independently of the towing member as
the bag is worn or as the bag is rolled along the ground.

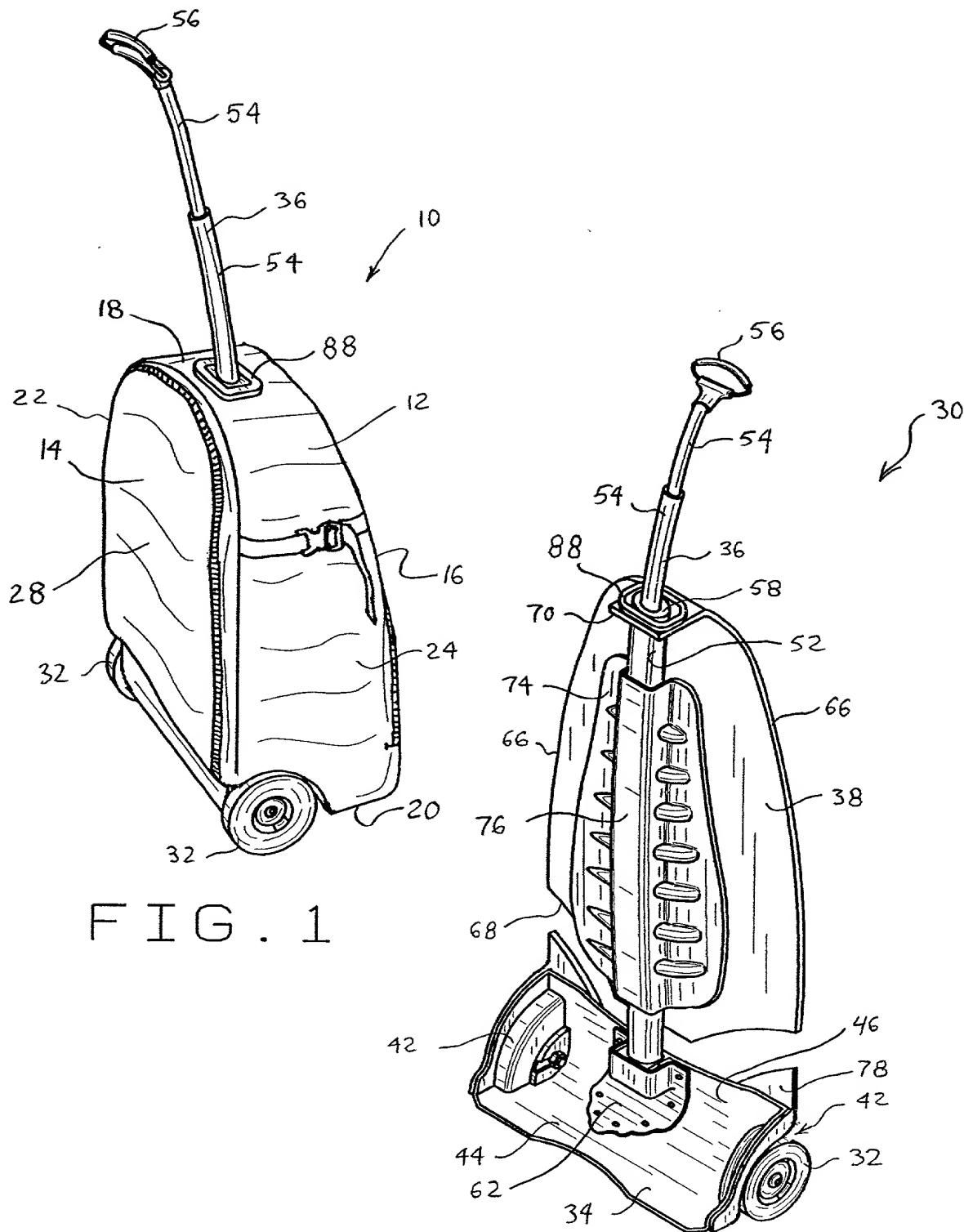
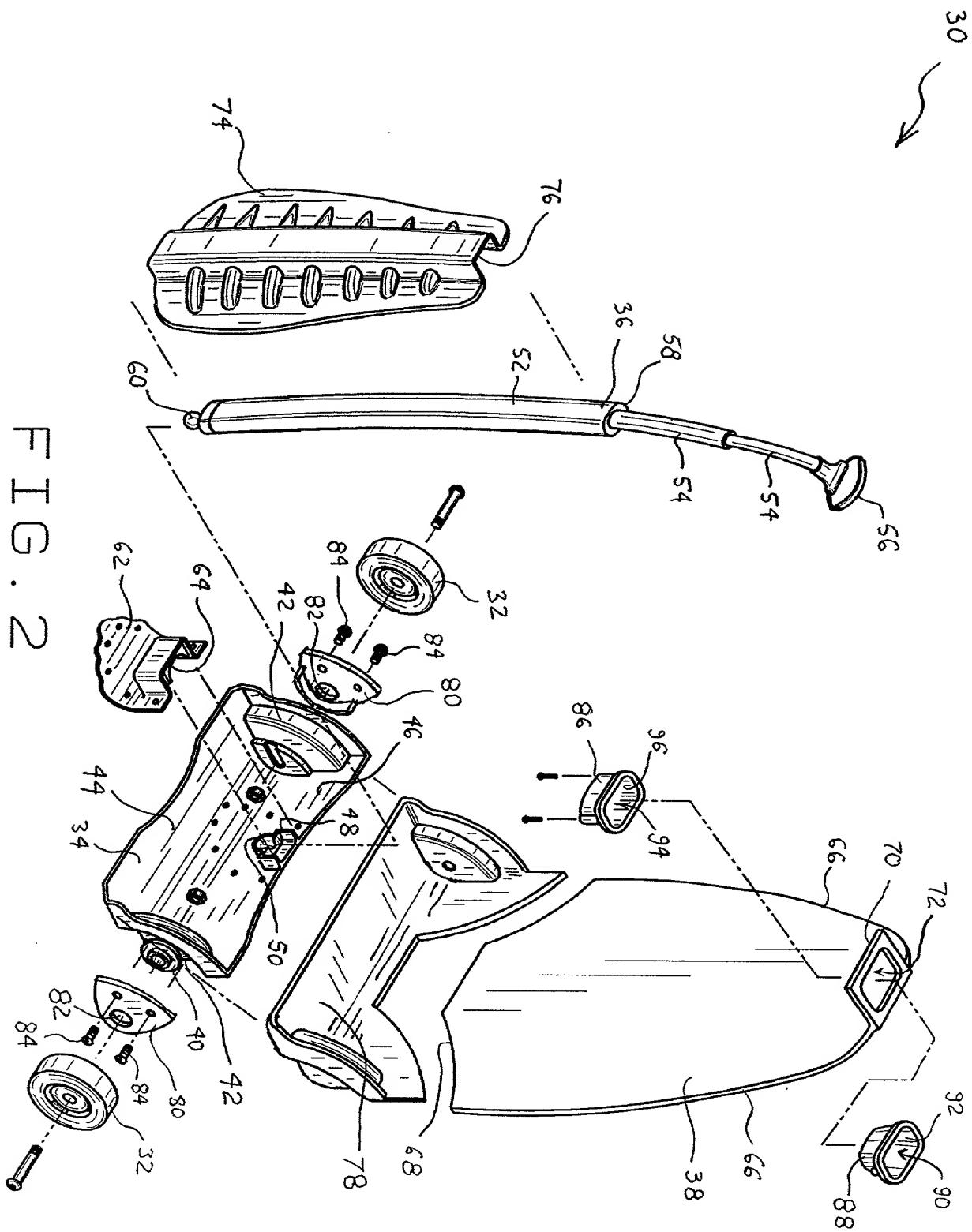


FIG. 1

FIG. 3

0 9 6 0 4 9 0 5 - 0 6 2 2 0 0

FIG. 2



0596045965 n 00000000

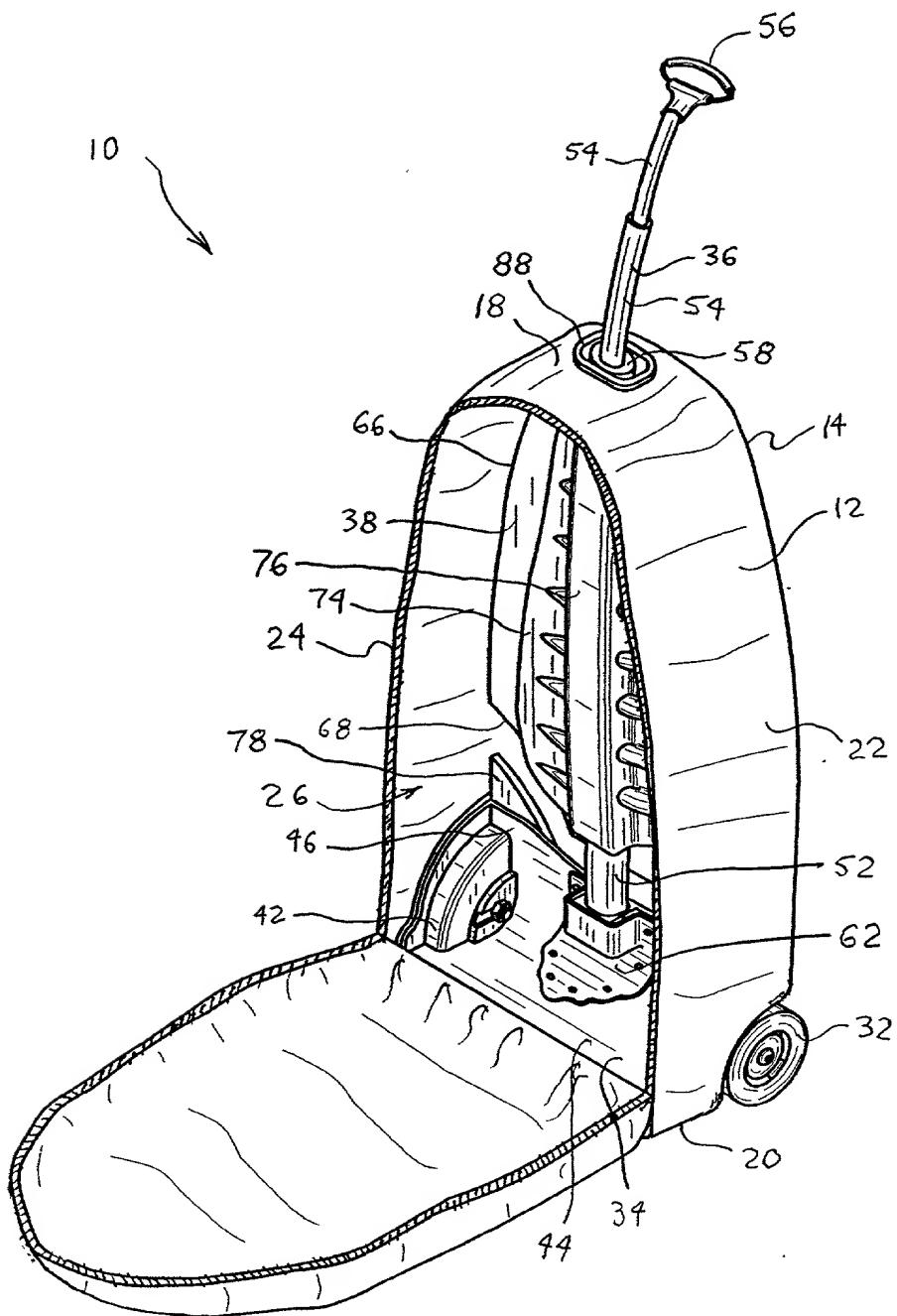


FIG. 4

PATENT
Express Mail No. EL110672247US
Attorney's Docket No. 16513-2424

COMBINED DECLARATION AND POWER OF ATTORNEY

(Original, Design, National Stage of PCT or CIP Application)

Inventors: Cory Nykoluk

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are stated below next to my name, I believe I am the original, first and sole inventor (if only one name is listed above) or an original, first and joint inventor along with those listed above (if plural names are listed above) of the subject matter which is claimed and for which a patent is sought on the invention entitled: *Towable Wheeled-Backpack*.

the specification of which: (Complete (a), (b) or (c) for type of application)

REGULAR OR DESIGN APPLICATION

(a) X is attached hereto.
(b) ____ was filed on ____ as Application Serial No. ____ and was amended on ____ (if applicable).

PCT FILED APPLICATION ENTERING NATIONAL STAGE

(c) ____ was described and claimed in International Application No. ____ filed on ____ and as amended on ____ (if any).

ACKNOWLEDGEMENT OF REVIEW OF PAPERS AND DUTY OF CANDOR

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations §1.56.

____ In compliance with this duty there is attached an information disclosure statement.
37 CFR 1.97.

PRIORITY CLAIM

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed.

[Complete (d) or (e)]

(d) X no such applications have been filed.

(e) such applications have been filed as follows.

EARLIEST FOREIGN APPLICATION(S), IF ANY FILED WITHIN 12 MONTHS (6 MONTHS FOR DESIGN) PRIOR TO SAID APPLICATION

Country	Application No.	Date of filing (day, month, year)	Date of issue (day, month, year)	Priority Claimed
				<u> </u> YES <u> </u> NO <u> </u>
				<u> </u> YES <u> </u> NO <u> </u>

ALL FOREIGN APPLICATION(S), IF ANY FILED MORE THAN 12 MONTHS (6 MONTHS FOR DESIGN) PRIOR TO SAID APPLICATION

CLAIM FOR BENEFIT OF PRIOR U.S. PROVISIONAL APPLICATION(S)

I hereby claim the benefit under Title 35, United States code, § 119(e) of any United States provisional application(s) listed below:

(Provisional Application Number)	(Filing Date)
(Provisional Application Number)	(Filing Date)
(Provisional Application Number)	(Filing Date)

CONTINUATION-IN-PART

(Complete this part only if this is a continuation-in-part application)

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application.

(Application Serial No.) (Filing Date) (Status) (Patent, pending, abandoned)

(Application Serial No.) (Filing Date) (Status) (Patent, pending, abandoned)

POWER OF ATTORNEY

As a named inventor, I hereby appoint the following attorney and/or agent to prosecute this application and transact all business in the U.S. Patent and Trademark Office connected therewith, before all competent international authorities in connection with any international application, and before all foreign patent offices in connection with the national phase of any international application or any foreign application, and to appoint any associate attorneys in connection with any application, either domestic, international or foreign national.

John M. Howell (25,261); Richard E. Haferkamp (29,072); Kenneth Solomon (31,427); Joseph M. Rolnicki (32,653); Joseph E. Walsh, Jr. (36,959); Alan H. Norman (32,285); Bryan K. Wheelock (31,441); Charles E. Dunlap (35,124); Anthony G. Simon (40,813); Thomas A. Polcyn (41,256); Evan R. Sotiriou (46,247); Jeffrey H. Urian (46,232); Clyde L. Smith (46,292); Elie H. Gendloff (44,704)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of sole or first inventor: Cory O. Nykoluk

Inventor's signature Sam D. Nelson

Date 22.6.00 ✓ Country of Citizenship United States

Residence 869 Long Acre Drive, Apt. B, St. Louis, Missouri 63132

Post Office Address 869 Long Acre Drive, APT. B, St. Louis, Missouri 63132